**Alg. 1 3.1-5 Creating and Solving Equations**

**Grading Rubric**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **CED.1** | **Create equations and inequalities in one variable and use them to solve problems.** | | | | | **REI.1** | **Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step. Construct a viable argument to justify a solution method.** | | | | |
| **4** | Can consistently and thoroughly   * Model a real-world problem with an equation * Use the equation to solve the problem   With no errors | | | | | **4** | Can consistently and thoroughly   * Explain each step in solving simple equations from the equality of numbers asserted at the previous step * Construct a viable argument to justify a solution method   With no errors | | | | |
| **3** | Can usually   * Model a real-world problem with an equation * Use the equation to solve the problem   With minor errors | | | | | **3** | Can usually   * Explain each step in solving simple equations from the equality of numbers asserted at the previous step * Construct a viable argument to justify a solution method   With minor errors | | | | |
| **2** | Can inconsistently   * Model a real-world problem with an equation * Use the equation or inequality to solve the problem   Or requires some assistance | | | | | **2** | Can accurately and usually   * Explain most steps in solving simple equations * Construct a limited argument to justify a solution method   Or requires some assistance | | | | |
| **1** | Can minimally   * Model a real-world problem with an equation or inequality * Use the equation to solve the problem   Or requires considerable assistance | | | | | **1** | Can minimally   * Explain most steps in solving simple equations * Construct a very limited argument to justify a solution method   Or requires considerable assistance | | | | |
| **Score for each question** | #1 | #2 | #3 | #4 | #5 | **Score for each question** | #1 | #2 | #3 | #4 | #5 |
| Notes: | | | | | | Notes: | | | | | |

Use each of the following rubrics to evaluate the five problems of your choice from the Creating and Solving Equations assignment. After you evaluate each problem, document your score in the spaces provided and describe the changes you would make to your assignment to demonstrate your understanding of the standards.

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| **CED.3** | |  | | --- | | **Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.** | | | | | | | **REI.3** | |  | | --- | | **A.REI.3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.** | | | | | |
| **4** | Can consistently and thoroughly   * Represent constraints of an equation in terms of context * Use these constraints to determine if a solution is reasonable   With no errors | | | | | | **4** | Can consistently and thoroughly   * Solve linear equations   With no errors | | | | |
| **3** | Can usually   * Represent constraints of an equation in terms of context * Use these constraints to determine if a solution is reasonable   With minor errors | | | | | | **3** | Can usually   * Solve linear equations   With minor errors | | | | |
| **2** | Can inconsistently   * Represent constraints of an equation in terms of context * Use these constraints to determine if a solution is reasonable   Or requires some assistance | | | | | | **2** | Can accurately and usually   * Solve linear equations   Or requires some assistance | | | | |
| **1** | Can minimally   * Represent constraints of an equation in terms of context * Use these constraints to determine if a solution is reasonable   Or requires considerable assistance | | | | | | **1** | Can minimally   * Solve linear equations   Or requires considerable assistance | | | | |
| **Score for each question** | | #1 | #2 | #3 | #4 | #5 | **Score for each question** | #1 | #2 | #3 | #4 | #5 |
| Notes: | | | | | | | Notes: | | | | | |

**Questions to Choose From Answers**

1. **Darius is training to prepare for wrestling season. He weighs 155 pounds now. He wants to gain weight so that he starts the season weighing 160 pounds. How much weight should he gain to reach his goal?**
2. **The average time it takes to manufacture a car in the United States is equal to the average time it takes to manufacture a car in Japan plus 8.1 hours. The average time it takes to manufacture a car in the United States is 24.9 hours. What is the average time to manufacture a car in Japan?**
3. A number increased by -37 is -91. Find the number.
4. What number minus one-half is equal to negative three-fourths?
5. Seven times a number equals -84. What is the number?
6. **Research conducted by a daily U.S. newspaper has shown that about one seventh of the people in the world are left-handed. About how many left-handed people are there in a group of 350?**
7. Two times a number *t* decreased by eight equals seventy.
8. What number divided by two equals -18?
9. Twenty-nine is thirteen added to four times a number. What is the number?
10. Find three consecutive odd integers whose sum is 51.
11. **Hugo withdrew some money from his bank account. He spent one third of the money for gasoline. Then he spent half of what was left for a haircut. He bought lunch for $6.55. When he got home, he had $13.45 left. How much did he withdraw from his bank?**